

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented) An isolated protein having phytase activity comprising amino acid residues 23-433 of SEQ ID NO: 7.

2. (Previously presented) The protein as set forth in claim 1, wherein the protein has the following characteristics:

- (a) molecular weight: about 47 kDa on SDS-PAGE,
- (b) optimal pH: pH 3.5-pH 4.5,
- (c) Optimal temperature: 45 °C-55 °C,
- (d) substrate specificity: phytate, p-nitrophenyl phosphate, tetrasodium pyrophosphate, ATP or ADP,
- (e) michaelis constant of 0.3-0.5 mM utilizing phytate as a substrate,
- (f) high resistance to protease such as pepsin, trypsin, papain, elastase or pancreatin, and
- (g) specific activity to phytate: at least 1,500 units/mg.

3. (Currently amended) The protein as set forth in claim 1, wherein the protein comprises a polypeptide ~~the amino acid~~ sequence ~~[[of]]~~ represented by SEQ ID NO:7.

4. (Canceled)

5. (Previously presented) The protein as set forth in claim 1, wherein the specific activity of the protein to phytate is at least 3,000 units/mg

6. (Previously presented) An isolated gene encoding the protein of claim 1.

7. (Currently amended) The gene as set forth in claim 6, wherein the gene has [[a]] the polynucleotide sequence [[of]] represented by SEQ ID NO:6.

8. (canceled)

9. (Previously presented) A feed additive containing the protein of claim 1 as an effective ingredient.

10-12. (canceled)

13. (Previously presented) The protein as set forth in claim 2, wherein the specific activity of the protein to phytate is at least 3,000 units/mg.

14. (Previously presented) The protein as set forth in claim 3, wherein the specific activity of the protein to phytate is at least 3,000 units/mg.

15. (Currently amended) An isolated gene encoding the protein of claim 2.

16. (Currently amended) An isolated gene encoding the protein of claim 3.

17-19. (canceled)

20. (Previously presented) A feed additive containing the protein of claim 2 as an effective ingredient.